# HIGH SPEED DOME CAMERA USER MANUAL

High resolution
Line scanning

RS485 control interface

Day&night function
Continuous360° rotation
Built -in OSD

Please review this instruction carefully before use.

The first use please open the packing gaskets(page 6)

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## 1.Important safeguards

- All the safety and operation instructions should be read before the units is operated.
- This unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of powerDC12/1.5A supply you plan to use, consult your appliance dealer or local power company. For units intended to operate from battery power or other sources, refer to operation instructions
- During the course of transportation, storage and installation, the product should be avoided from incorrect operations such as heavy pressing, strong vibration etc., which can cause damage of product as there are sophisticated optical and electronic devices inside the machine.
- Do not attempt to disassemble the camera. In order to prevent electric shock, do not remove screws or covers. There are no user-serviceable parts inside.
- Always follow all electrical standards for safety when it is in operation. Adopt the particular power supply which is provided with the unit. RS-485 and video signal should keep enough distance with high voltage equipments and cables when they are in transmission. Precautions for anti-lightning and anti-surging should be taken if necessary.
- The product should be indoor installed and operated to avoid rain and moisture.
  Do not use it in wet places. If outdoor installation is needed, the closed protect cover should be used and it is absolutely prohibited to use it in open air independently.
- Do not operate it in case temperature, humidity and power supply are beyond the limited stipulations.

# 1.Important safeguards

- Do not let the camera aim at the sun or the object with extreme light what soever it is switched on or not. Do not let the camera aim at or monitor bright and standstill object for a long time.
- Do not use aggressive detergent to clean the main body of the camera.
   Wipe dirt with dry cloth. If needed, mild detergent can be used suitably.
- Operate the intelligent speed dome camera with great care to avoid shock or vibration. It operate incorrectly, the Speed Dome could be damaged.
- Do not place this unit on an unstable stand, tripod, bracket, or mount.

  The unit may fall, causing serious injury to a person and serious damage to the unit. Use only with a stand, tripod, bracket, or mount recommended by the manufacturer or sold with the product. Any mounting of the unit should follow the manufacturer's Instructions and should use mounting accessory recommended by manufacturer.
- If necessary, use a commercial lens cleaning paper to clear the lens windows. Gently wipe the lens window until clean.

#### 2. Features

#### DNR (Digital Noise Reduction)

By using the DSP chip applied to the DNR technology, the amount of low illuminance noise has been significantly reduced, and the signal-to-noise ratio(S/N) as well as horizontal resolution has been improved, resulting in a clear and sharp image display even in the dark.

#### 10x Optical Zoom

The SDM-100 built-in x10 optical zoom lens is highly reliable. It features auto focus, Auto iris and Zoom Tracking function.

#### High Resolution

The horizontal resolution of 500TV Lines at Color mode and 570TV Lines at BW mode can be achieved by using a high density CCD having 410,000 pixels SONY CCD, which provides clean, noiseless and reliable pictures.

#### Day & Night (ICR)

An infrared(IR) Cut-Filter can be disengaged from the image path for increased sensitivity in low light environments. The ICR will auto matically engage depending on the ambient light, allowing the camera to be effective in day & night environment.

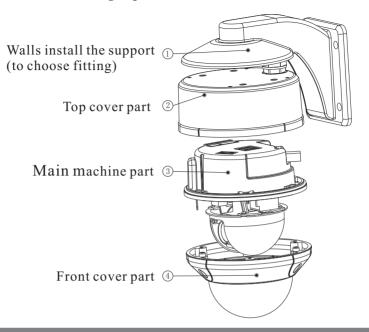
#### Electrical Flip function

The SDM-100 has function of H/V reverse mode.

#### Motion Detection(4 programmable zone per screen)

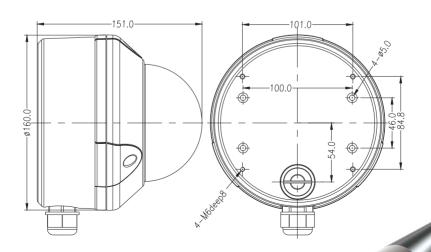
You can transmits an alert signal when it detects motion of an object on the screen. This feature is useful when you have to monitor several screens simultaneously.

#### 1. The structure drawing explains



Attention: machine core Partial +Front cover= Main machine partial

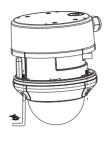
#### 2. Dimension of the product (Unit: mm)





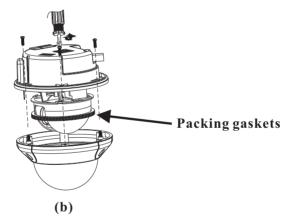
#### 3. packing gaskets backout method

a. Loosens on the front cover of three screws, Takes down the main product part.

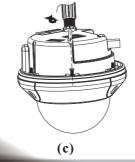


(a)

b. Loosens on the machine core part of three screws, Takes down the front cover, takes out the packing gasket.



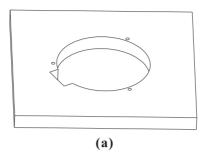
**C.** gathers the main machine part and the front cover, on the locking main machine part three screws.



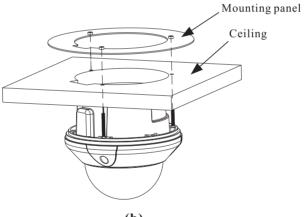


#### 4. Indoor embedded installation

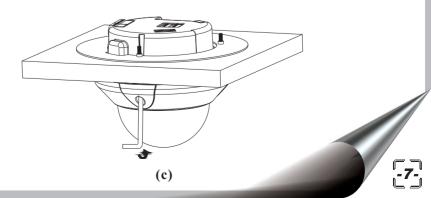
a. Opens the hole the ceiling among, with drills three screw holes.



b. Changes into PM4.0X45.0 the front cover three screws the screw (PM4.0X45.0), puts in the main engine part the ceiling, to uneven mounting panel.



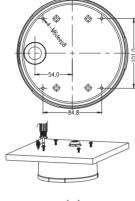
c. On locking front cover three screws.



#### 5. Indoor ceiling installation

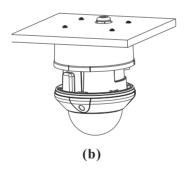
#### Method 1:

a. The ceiling according to the size drill hole, installs the top cover on the ceiling.

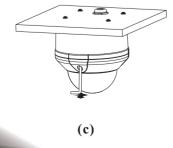


(a)

b. Installs the main machine part, to uneven main machine part of the partial locating slots and the top cover localization bone position, must approach the lineation along line top cover outer wall and to install.



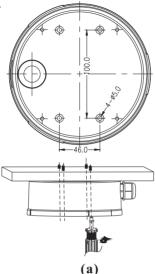
c. On locking front cover three screws.



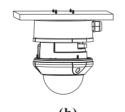
-**8**-

#### Method 2:

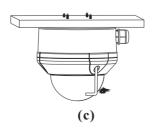
a. The concrete of ceiling according to the size drill hole, infiltrates the plastic expanding tube, installs with KA4.0X35.0 from the screws the top cover on the ceiling.



b. Installs the main machine part, to uneven main machine part of the partial locating slots and the top cover localization bone position, must approach the lineation along line top cover outer wall and to install.

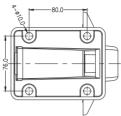


c. On locking front cover three screw.



#### 6. The wall type installs

a. Hits four holes the wall according to the size, with the support the inflates of bolt (M8.0X80.0) to fix on the wall, simultaneously fixes the top cover on the support.



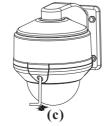


(a)

b. Installs the main machine part, to uneven main machine part of the partial locating slots and the top cover localization bone position, must approach the lineation along line top cover outer wall and to install.



c. On locking front cover three screws.



#### The cleaning if down cover

To obtain constant clear videos, user should clean the down cover periodically:

- ✓ Be cautious when cleaning. Hold the down cover ring only to avoid direct touch to the acrylic down cover. The acid sweat mark of fingerprint will corrode the coating of down cover and scratch on down cover will cause vague images.
- ✓ Use soft dry cloth or the substitute to clean the inner and outer surfaces.
- ✓ For hard contamination, use neutral detergent. Any cleanser for high-grade furniture is applicable.

## 4. System connection

#### 1. Lighting proof and surge signal proof

should be  $\leq 25 \text{mm}^2$ 

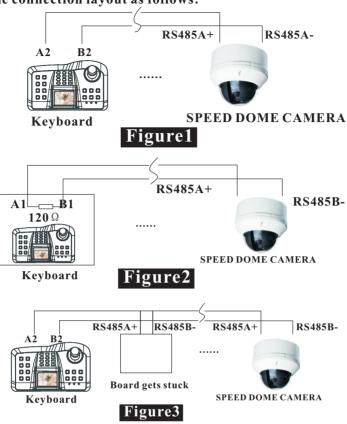
The product adopts TVS lightning proof technology to prevent from damage by lightning strike below 1500 W and impulse signals such as surge; but it is also necessary to abide by the following precautions to ensure electrical safety based on practical circumstances:

- Keep the communication cables at least 50 meter away from high voltage equipment or cables.
- Make outdoor cable laying-out under eaves as possible as you can.
- In open area shield cables in steel tube and conduct a single point ground to the tube. Trolley wire is forbidden in such circumstances.
- In strong thunderstorm or high faradic zone (such as high voltage transformer substation), extra strong lightning proof equipment must be installed.
- Take the building lightning proof requirements into account to design the lightning proof and grounding of outdoor equipment and cable laying -out in accordance with the national and industrial standards.
- The system must be grounded with equal potentials. The earth ground connection must satisfy the anti-interference and electrical safety requirements and must not short circuited with high voltage electricity net When the system is grounded separately, the resistance of down conductor should be  $\leq 4 \Omega$  and the sectional area of down conductor

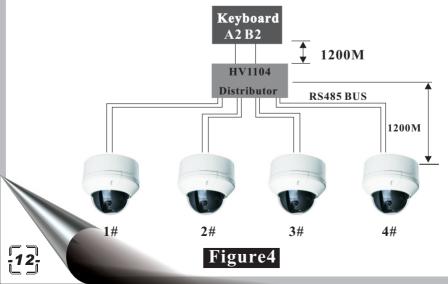
11

# 4. System connection

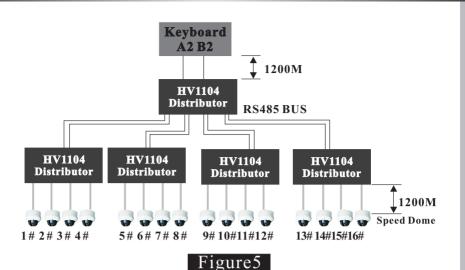
2. Single connection layout as follows:



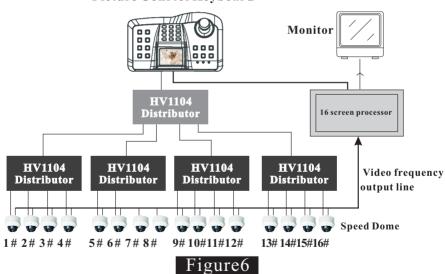
#### 3. Much machine links picture as follows:



## 4.System connection



#### Picture Conrtol Keyboard

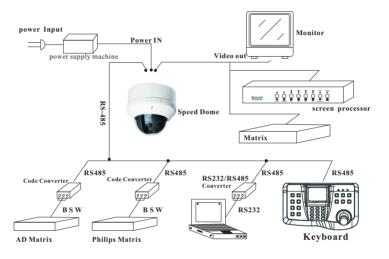


## 4. System connection

#### 3.Main line connection diagram as follows:



Notice: RS485 main line are most may the parallel control 256 intellectualizations high speed balls camera.

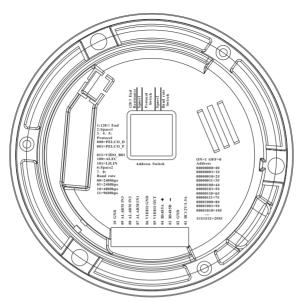


#### 5. Explained:

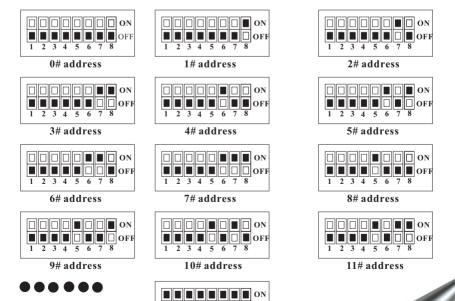
- $\langle 1 \rangle$  The divider may connect 3.
- $\langle 2 \rangle$  In the ordinary circumstances, the ball machine 120  $\,\Omega$  is at the
- "OFF" condition, if could not control, then should hit in the "ON" condition.
- $\langle 3 \rangle$  The keyboard time passed (A2, B2) the road cannot control, then traded the user to be able (A1, B1) a control.
- $\langle 4 \rangle$  RS485 main line transmitting range:

Baud Rate	Maximum Transmitting Distance
2400Bps	1800m
4800Bps	1200m
9600Bps	800m
19200Bp20	0m

#### 1. Setup switch (Device bottom view:)



# 2. Disassembles the cabinet, According to Device bottom view setup Address.

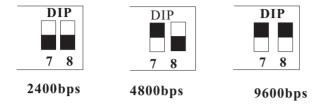


O O O O O O O O F F

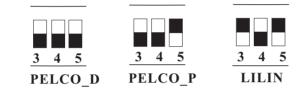
255# address

# 5. System setup

3. Disassembles the cabinet, According to Device bottom view setup Baud rate.



4..Disassembles the cabinet, According to Device bottom view setup Protocol .





#### 1. Basic operation

**NOTE:** It will prolong to the ball life-span and improve to run precision by operation joystick, Please bellow operation:

a.Do not run right-way when it is running left-way, do not run up-way when running down-way. It is need to stop run when the ball will changerun way.

b.Do not shift speed soon, It is right operation for: slowest -> middling speed -> flashest or flashes -> middling speed -> slowest.

c.Do not run long time: Line scan mode, Track scan mode or 3.60°.

#### 1).UP, DOWN, LEFT and RIGHT run function

This speed can change when operation joystick to up run or down run or left run or right run. The joystick is declining that the ball is celerity, it is seven step speeds from slow to celerity.

#### 2). Preset location

The ball can save 160 preset location (include ball up down left or right location, camera zoom lens. It will auto run to preset location when call 1.1 the save the location.

#### Save preset location

Operation keyboard: PRESET + N + ENTER

N: preset location number, range:0~79, 100~179.

It will display: PRESET: No. on screen.

It will display : **OVER SET Number :** on screen if surpasses scope.

#### 1.2Call preset location

Operation keyboard: Call + N + ENTER

It will display :CALL: No. on screen.

It will display :NO-SET: No. on screen if do not save preset location.

It will display: OVER CALL N:on screen if surpasses scope.

Note:

The position is not nicety when Call preset location . Solution of two kinds: a.Hand control the ball machine to pass  $0^{\circ}$  by horizontal direction .

then arrives to 90° by vertical direction.

b. Enable the ball machine to return to the zero: Call + 99 + ENTER

Tt can adjust ball machine position error by above operation, then operation to "Save preset location", the ball's position is nicety.

1.3.Dele preset location

Operation keyboard: PRESET + N + OFF

It will display :CLEAR: No. on screen.

It will display: CLEAR: No. on screen if do not save preset location.

It will display: CLEAR No. on screen if surpasses scope.

#### 1.4 .Line scan mode

The ball can run between two preset location as for left-right monitor.

Set line scan mode start location: PRESET + 51 + ENTER

Set line scan mode end location: PRESET + 52 + ENTER

Run line scan mode: CALL + 51 + ENTER

Stop line scan mode: operation joystick stop to the ball.

Adjust speed: Main menu PTZ ball set Line speed

#### 1.5.Track scan mode

The preset locations can called by grouping way, it can setup pause time between two preset location, the ball will arrive a preset then next preset location that it is come into being loop monitor by run the TRACK SCAN MODE. The feature is called TRACK SCAN MODE. This ball setup 8 groups

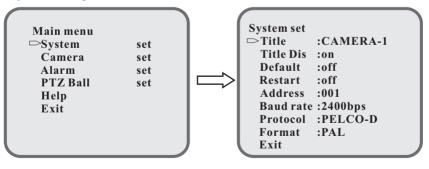
preset location, each group there are 10 locations. As follows:

- **0--9:** the first group.
- 10--19: the second group.
- 20--29: the third group.
- **30--39:** the fourth group.
- 40--49: the fifth group.
- **50--59:** the sixth group.
- **60--69:** the seventh group.
- 70--79: the eighth group.
- Run Track scan mode: CALL + 53 + ENTER
- It will jump to next one if the preset location done not save or dele.
- Stop Track scan mode: operation joystick stop to the ball.
- Direct run track: SHOT + N + ENTER
- Adjust speed: Main menu→ PTZ Ball → Back speed
- 1.6.360° mode
- Start 360° mode: AUTO + ON
- the mode speed can changed at menu: PTZ Ball set => 360° speed.
- Stop 360° mode: **AUTO** + **OFF** or operation joystick stop to the ball.

#### 1.Menu operation

- \*Open the main menu by ALL 5 NTER
- \*You can control the camera using keyboard directly, Please see the manual of keyboard for details.
- When the main menu display on the screen, the cursor display on the left, operate joystick UP or joystick DOWN to the preset item for entering submenu or charging item.
- ♦Operate joystick Tele, joystick Wide to enter the item. Tele key or Wide key may as the enter key.
- ♦ When changing the value of the item, the value will be flashing, operate joystick UP, joystick Down to change the value.
- \*When inputting some numbers or characters (i.e. inputting title, changing address), operate joystick left, joystick right to move the cursor and change the value of each bit.
- The menu will close automatically after 200 seconds non-operation.
- The setting parameters in the menu will not lose after powered off.

#### 2.system setup



#### a)TITLE:CAMERA-1

Editing title (Capital, number and punctuation).

b) TITLE DIS: ON/ OFF

Setting whether displaying the title on the bottom.

#### c)DEFAUIT:OFF/ON

camera factory default set. When the camera doesn't work properly for the parameters changed, user can exclude the malfunction by restoring the factory default set.

#### d)RESTART:OFF/ON

Restart camera. User also exclude the malfunction by restarting the camera when it is working improperly.

#### e)ADDRESS:001

Change camera address(range: 0-255). When there are more than one connected on the RS485 bus, user need to change the camera address.

The camera will not be set on the same address.

#### f) BAUD RATE: 2400bps

Setting the communication parameters baud rate.

including: 9600bps, 4800bps, 2400bps.

#### g) PROTOCOL: PELCO-D

Setting controlling protocol, including: PELCO-P, PELCO-D, SANSUNG,

VIDO-BO1, ALEC, LILIN.

#### Notice: SAMSUNG, VIDO-B01 are same set to sw2.

#### h) Format: PAL.

Select PAL if use PAL camera.

Select NTSC if use NTSC camera.

Camera default value: NTSC format.

#### NOTE:

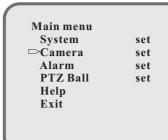
- e)ADDRESS,
- f) BAUD RATE,
- g) PROTOCOL

the 3 item can not change parameter on menu.



# 7. Menu setup

#### 3.camera setup.



SETUP MENU	Function	Summary
CAMERA TITLE	●OFF ● ON	*Set camera title string and OSD Display Postion
	•ATW-Mode:	ATW is controlled 2 mode by color temperature range
	-OUT DOOR	*Mode-INDOOR:3000-10,5000° <b>K</b>
	-IN DOOR	-OUTDOOR:1,8000-10,500° K
	●AWC	*AWC:ONE PUSH
	●MANUAL	*MANUAL: RED/BLUE adjustable
BACK LIGHT	●OFF ●LOW ●MIDDLE	*Back light compensation
	●HIGH	
Motion Detection	●OFF ●ON	*ON mode: AREA(4 Programmable zone/size)
		*The word "MOTION DETECTED" appear on
		the screen.
FOCUS	●MODE	*AUTO/MANUAL/ONE-PUSH
	●ZOOM TRK	*ON/OFF
	●ZOOM SPEED	*FAST/SLOW
	●D-ZOOM	*OFF/ON
	●DISP ZOOM MAG	*OFF/ON
	●ZOOM POS INIT	*OFF/ON
	•LENS INIT	*Execute lens initialization.
EXPOSURE	●BRIGHTNESS	*The brightness cam be adjusted.
	●IRIS	*AUTO/MANUAL
	●SHUTTER	*/MANUAL/A.FLK
	●AGC	*OFF/NORMAL/HIGH
	●SSNR	*OFF/LOW/DIDDLE/HIGH
	•SENS-UP	*OFF/ON
SPECIAL		
RESET(Refer to		*Returns to the level which was set by the manu
the bottom)		facturer for shipment.
EXIT		*Saved all the setting menu, the exit.

NOTICE: Then user need to operation : Open menu(CALL+95+ENTER)

=> Main menu => Camera set => SPECIAL => COMM Addition

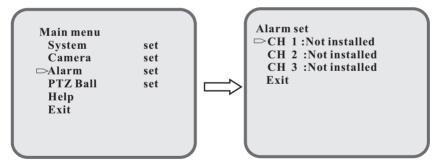
 $\Rightarrow$  COMM ID  $\Rightarrow$  0 or 1  $\Rightarrow$  in turn menu.

## 7. Menu setup

SETUP MENU	Function	Summary
USER PRESET	●OFF ● ON	No use
PRIVACY	●OFF ●ON	*On mode: area(4Programmable zone) /SIZE/TONE
		adjustable
DAY/NIGHT	●COLOR ●B/W	*COLOR/B/W
	●AUTO1●AUTO2	*AUTO1,2 according to the luminance level, D\$N
		filter is automatically switched
SYNC	●INT	*Internal
COMM Addition	●CAM ID	* Open menu(CALL+95+ENTER),
	●DIS CAM ID	Returns to the level which was set by the menu
	●BAUD RATE	facturer for shipment. Eg: CAM ID or CAM ID:1.
	●UART MODE	
	●RET-PKT	Warning: don't setup
IMAGE Addition	●FREEZE	
	●H-REV	*OFF/ON
	●V-REV	*OFF/ON
	SHARRNESS	*OFF/ON
	●COLOR	*The Sharpness can be adjusted.
		*The color level can be adjusted(0~100)

## Specifications are subject to change without notice.

#### 4. Alarm set menu



Function note: Auto run to preset location and monitor to it and display

"ALARM 1" on screen bottom when this ball is alarming. Input type:

- a. Normal close: This ball is alarming when alarm interface have closed.
- b. Normal open: This ball is alarming when alarm interface have opened.
- c. Not installed: This ball is not alarming when alarm have not installed.

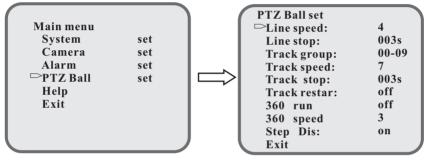
### 7. Menu setup

Set operation:

- a. Install alarm, for example: infrared sensor.
- b. Operation joystick that this ball run to alarm preset location.
- c. Operation keyboard: CALL + 95 + ENTER to open menu.
- d. Into sub-menu Alarm set item at main menu.
- e. Set Input type depend on alarm's output interface. for example:

infrared sensor .:

#### 5.PTZ ball set menu



**Lines speed:** range: 1~7step slowest:1 flashest:7 default: 4.

Lines pause: line run pause time range:0s~255s, default: 3s.

**Track group:** range:  $00\sim79$ , min group:  $00\sim09$ , max group:  $70\sim79$ ,

default: 00~09.

**Track speed:** range:  $1 \sim 7$ , slowest: 1, flashest: 7, default: 7.

Track pause: scan pause time range:0s~255s, default: 3s.

Track dis: on Display switch of step

**360 run**: off

**360 speed:** range: 1~7, slowest: 1, flashest: 7, default: 3.

Exit

#### NOTE:

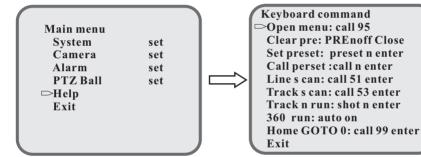
- a. Line speed Operation keyboard: CALL +51 +ENTER to activation the function, Line stop Operation joystick stop to the ball.
- b. Track group, Track speed and Track pause Operation

keyboard: CALL +53 + ENTER to activation the function. Or

SHOT + N + ENTER

c. 360 ° run and 360 ° speed Operation keyboard: AUTO + ON to activation the function. Operation keyboard: AUTO + OFF to disable the function

#### 6.Help menu



Keyboard command

Open menu: CALL+95+ENTER

Clear pre: PRESET +N+ OFF

Set preset: PRESET+ N+ ENTER

Call preset: CALL+ N+ ENTER

Line scan: CALL+ 51+ ENTER

Track scan: CALL+ 53+ ENTER

360 run: AUTO+ ON+ ENTER

Home goto 0: CALL+99+ENTER

Exit

#### 8.1.Technical data table of the ball

Manual speed(Pan/Tilt)	Min:1.5° /s, Max:120° /s	
Auto speed (Pan/Tillt)	Min:1.5° /s, Max:240° /s	
Pan range	360°	
Tilt range	0~90°	
Preset location	160 Presets	
Tilt range	8 cruises,7 step speeds	
Line scan mode	1 cruises,7step speeds	
360° run mode	7 step speeds	
OSD system	Setup Parameter, Setup Title, XY POSITION, Auto Clear Screen	
Protocol	PELCO-D, PELCO-P, ALEC, LILIN, VIDO-B01, SUMSANG	
Baud rate	9600bps, 4800bps,2400bps	
Communications mode	RS485 bus, max distance:1800m	
Power supply	DC12V/1.5A	

Specifications are subject to change without notice.

#### 8.2 .Technical data table of the ball

Specifications	NTSC	PAL	
Size	1/4inch,Inter line Transfer CCD		
Effective Pixels	811 (H) X508 (V) 759 (H) X596 (V)		
	768 (H) X494 (V)	752 (H) X582 (V)	
Lens	10X,f=3.8 to 3	38.0mm(F1.8)	
Optics	1,00	0mm	
Min.Focus Distance	OFF/ON	(1X~10X)	
Angle Field of view	H:Appr.51.2° (Wide)to 5.58° (Tele)/V	APPR.39.3° (Wide) to 4.27° (Tele)	
Scanning System	2: 1 In	ter lace	
Sync. System	Inte	rnal	
Frequency	Н: 15.734КНz/V:59.94Нz	H:15.625KHz/V:50Hz	
Resolution	500TV lines (Min.):Color	r/570TV lines(Min.):B/W	
Min.Illumination	0.7LUX/F1.8(50IRE); Color	·/0.02Lux/F1.8(50IRE); B/W	
S/N(Ysignal)	50dB(AGC of	f, Weight ON)	
Video output	CVBS:1.0Vp-p75Ω		
Focus	Auto/Manu	ial/one push	
Zoom Movement Speed	1.67sec: wide to tele	1.75sec:wide to tele	
IRIS Control	Auto, I	Manual	
Lens initialize	Bui	lt-in	
Camera Title	OFF/ON(Displayed 15 characters)		
Camera ID	255 ID Selectable		
Day&Night	AUTO1, AUTO2, COLOR, B/W		
Gain Control	Normal, High, Off		
White Balance	ATW/AWC/Manual (1800° K~10, 500° K)		
Back Light Compensation	Low, Middle, High, Off		
Electronic shutter speed	AUTO (X128~1/60sec~1/120, OOOsec)	AUTO (X128~1/50sec~1/120,000sec	
	sens-up and sen-np Limit is selectable,	sens-up and sen-np Limit is selectable,	
	flicker less.	Flicker less.	
O.S.D	Built		
Motion Detection	ON/OFF		
SSNR	Low, Middle, High, Off		
FLIP	Vertical, Horizontal		

Specifications are subject to change without notice.

#### 8.2 .Technical data table of the ball

Specifications	NTSC	PAL	
Size	1/4inch,Inter line Transfer CCD		
Effective Pixels	811 (H) X508 (V)	759 (H) X596 (V)	
	768 (H) X494 (V)	752 (H) X582 (V)	
Lens	10X,f=3.8 to 3	38.0mm(F1.8)	
Optics	1,00	0mm	
Min.Focus Distance	OFF/ON	(1X~10X)	
Angle Field of view	H:Appr.51.2° (Wide)to 5.58° (Tele)/V	:APPR.39.3° (Wide) to 4.27° (Tele)	
Scanning System	2: 1 In	ter lace	
Sync. System	Inte	ernal	
Frequency	H: 15.734KHz/V:59.94Hz	H:15.625KHz/V:50Hz	
Resolution	540T	V lines	
Min.Illumination	0.11	LUX	
S/N(Ysignal)	50dB(AGC of	ff, Weight ON)	
Video output	CVBS:1.0	<b>0Vp-p75</b> Ω	
Focus	Auto/Manu	ual/one push	
Zoom Movement Speed	1.67sec:wide to tele	1.75sec:wide to tele	
IRIS Control	Auto, I	Manual	
Lens initialize	Bui	lt-in	
Camera Title	OFF/ON(Displayed 15 characters)		
Camera ID	255 ID Selectable		
Day&Night	AUTO1, AUTO2, COLOR, B/W		
Gain Control	Normal, High, Off		
White Balance	ATW/AWC/Manual (1800° K~10, 500° K)		
Back Light Compensation	Low, Middle, High, Off		
Electronic shutter speed	AUTO (X128~1/60sec~1/120, OOOsec)	AUTO (X128~1/50sec~1/120,000sec	
	sens-up and sen-np Limit is selectable,	sens-up and sen-np Limit is selectable,	
	flicker less.	Flicker less.	
O.S.D	Built		
Motion Detection	ON/OFF		
SSNR	Low, Middle, High, Off		
FLIP	Vertical, Horizontal		

Specifications are subject to change without notice.

## Troubleshooting:

Problems	possible causes	Remedies
	Power supply fault	Replace
No action when is switched on	Bad connection of the power	Correct
	Transformer damaged	Replace
	Mechanical failure	Repair
Abnormal self-chedk,images	Camera inclined	Reinstall
with motor noise	Power supply not enough	Replace
	Video signal fault	Reinstall
Normal self-check no image	Bad connection of the video	Press to connect well
	Camera damaged	Replace
	Rs485 bus bad connection	Check the Rs485 connection
Normal self-check out of control	Dome ID setup is wrong	Replace
	Protocol setup is wrong	Reselect Reset and switch on again
vague image	Bad connection fo the video	Press to connect well
	Power supply not enough	Replace
	Self check error	Power on again
Dome camera out fo control	Bad connection of control	Press to connect well
	Bad control of matrix	Power on again
	The position is error	1.opration the ball to pass 0°
The ball's bosition is not nicety		by horizontal direction and arrive
		90° by vertical direction.
		2.CALL+99+ENTER.
	The camera has fault, it needs	Shake out hood cover, the find out five
Dome can run, but camera can't	to reset.	test position on the PCB(refer underside
TELE, WIDE or do not open the		picture 100.)
menu		1.Short circuit GND to SET position by
		wire, camera menu will open.
		2.Short circuit GND to SET position by
		wire, More the cursor to RESET item.
		3. Short circuit GND to SET position by
		wire, reset the camera.
RESET to the camera, The	The camera can not been	Open menu(CALL+95+ENTER)
camera can not been on menu		=> Main menu => Camera set =>
camera can not been on menu	Controlled	
OSD.	Controlled	SPECIAL => COMM Addition

PCB

